

Sequence Listing

<110> Dobeel Corporation

<120> PRE S PROTEIN OF HEPATITIS B VIRUS (HBV) AS AN ADJUVANT AND A
COMPONENT OF HBV VACCINE

<150> KR 10-2001-29002

<151> 2001-05-25

<160> 11

<170> KopatentIn 1.71

<210> 1

<211> 522

<212> DNA

<213> HBV(adr subtype) pre S gene

<400> 1

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cctctgggat tctttccca tcaccagttg gaccctcgt tcggagccaa ctcaaacaat	120
ccagattggg acttcaaccc caacaaggat cactggccag aggcaaatca ggtaggagt	180
ggagcattcg ggccagggtt caccacacca cagcgcggtc ttttggggtg gagccctcag	240
gctcagggca tattgacaac agtgccagca gcgcctctc ctgcctccac caatcggcag	300
tcaggaagac agcctactcc catctctcca cctctaagag acagtcattc tcaggccatg	360
cagtggaaact ccaccacatt ccaccaagct ctgctagatc ccagagttag ggcctatat	420
tttctgctg gtggctccag ttccgaaca gtaaaccctg ttccgactac tgcctcacc	480
atatcgtcaa tcttctcgag gactggggac cctgcaccga ac	522

<210> 2

<211> 522

<212> DNA

Sequence Listing

<213> HBV(ayw subtype) pre S gene

<400> 2

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atgggagggtt ggtcttccaa acctcgacaa ggcatggggc agaattcttc caccagcaat      60
cctctgggat  tctttcccga ccaccagttg gatccagcct tcagagcaaa caccgcaa      120
ccagattggg  acttcaatcc caacaaggac acctggccag acgccaacaa ggtaggagct      180
ggagcattcg  ggctgggatt caccocacca cacggaggcc ttttggggtg gagccctcag      240
gctcagggca  tactagaaac gttgccagca aatccgcctc ctgcctctac caatcgccag      300
tcaggaaggc  agcctacccc gctgtctcca cctttgagaa aactcatcc tcaggccatg      360
cagtggaaact ccacaacctt ccaccaaact ctgcaagatc ccagagttag aggcctgtat      420
ttccctgctg  gtggctccag ttcaggaaca gtaaaccctg ttccgactac tgtctctccc      480
atatcgtaaa  tcttctcgag gattggggac cctgcgctga ac      522

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<210> 3

<211> 522

<212> DNA

<213> HBV(adw subtype) pre S gene

<400> 3

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ccagattggg  acttcaaccc catcaaggac cactggccac aagccaacca ggtaggagtg      180
ggagcatttg  ggccagggtt cactccccc cagggagggtg ttttggggtg gagccctcag      240
gctcagggca  tattggccac cgtgccagcg atgcctctc ctgcctccac caatcggcag      300
tcaggaaggc  agcctactcc catctctcca cctctaagag acagtcattc tcaggccatg      360

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Sequence Listing

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cagtgaatt ccacagcttt ccaccaagct ctgcaagatc ccagagtcag gggcctgtat      420
tttctgctg gtggctccag ttcaggaaca ctcaaccctg ttccaactat tgcctctcac      480
atctcgtcaa tctcctcgag gattggggac cctgcaccga ac                        522

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<210>      4
<211>     174
<212>      PRT
<213>      HBV(adr subtype) pre S protein

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<400>      4
Met Gly Gly Trp Ser Ser Lys Pro Arg Gln Gly Met Gly Thr Asn Leu
  1              5              10              15

Ser Val Pro Asn Pro Leu Gly Phe Phe Pro Asp His Gln Leu Asp Pro
          20              25              30

Ala Phe Gly Ala Asn Ser Asn Asn Pro Asp Trp Asp Phe Asn Pro Asn
          35              40              45

Lys Asp His Trp Pro Glu Ala Asn Gln Val Gly Val Gly Ala Phe Gly
          50              55              60

Pro Gly Phe Thr Pro Pro His Gly Gly Leu Leu Gly Trp Ser Pro Gln
          65              70              75              80

Ala Gln Gly Ile Leu Thr Thr Val Pro Ala Ala Pro Pro Pro Ala Ser
          85              90              95

Thr Asn Arg Gln Ser Gly Arg Gln Pro Thr Pro Ile Ser Pro Pro Leu
          100             105             110

Arg Asp Ser His Pro Gln Ala Met Gln Trp Asn Ser Thr Thr Phe His
          115             120             125

Gln Ala Leu Leu Asp Pro Arg Val Arg Gly Leu Tyr Phe Pro Ala Gly
          130             135             140

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Sequence Listing

Gly Ser Ser Ser Gly Thr Val Asn Pro Val Pro Thr Thr Ala Ser Pro
 145 150 155 160

Ile Ser Ser Ile Phe Ser Arg Thr Gly Asp Pro Ala Pro Asn
 165 170

<210> 5
 <211> 174
 <212> PRT
 <213> HBV(ayw subtype) pre S protein

<400> 5
 Met Gly Gly Trp Ser Ser Lys Pro Arg Gln Gly Met Gly Gln Asn Leu
 1 5 10 15

Ser Thr Ser Asn Pro Leu Gly Phe Phe Pro Asp His Gln Leu Asp Pro
 20 25 30

Ala Phe Arg Ala Asn Thr Ala Asn Pro Asp Trp Asp Phe Asn Pro Asn
 35 40 45

Lys Asp Thr Trp Pro Asp Ala Asn Lys Val Gly Ala Gly Ala Phe Gly
 50 55 60

Leu Gly Phe Thr Pro Pro His Gly Gly Leu Leu Gly Trp Ser Pro Gln
 65 70 75 80

Ala Gln Gly Ile Leu Glu Thr Leu Pro Ala Asn Pro Pro Pro Ala Ser
 85 90 95

Thr Asn Arg Gln Ser Gly Arg Gln Pro Thr Pro Leu Ser Pro Pro Leu
 100 105 110

Arg Asn Thr His Pro Gln Ala Met Gln Trp Asn Ser Thr Thr Phe His
 115 120 125

Gln Thr Leu Gln Asp Pro Arg Val Arg Gly Leu Tyr Phe Pro Ala Gly
 130 135 140

Sequence Listing

Gly Ser Ser Ser Gly Thr Val Asn Pro Val Pro Thr Thr Val Ser Pro
 145 150 155 160

Ile Ser Ser Ile Phe Ser Arg Ile Gly Asp Pro Ala Leu Asn
 165 170

<210> 6
 <211> 174
 <212> PRT
 <213> HBV(adw subtype) pre S protein

<400> 6
 Met Gly Gly Trp Ser Ser Lys Pro Arg Lys Gly Met Gly Thr Asn Leu
 1 5 10 15

Ser Val Pro Asn Pro Leu Gly Phe Phe Pro Asp His Gln Leu Asp Pro
 20 25 30

Ala Phe Gly Ala Asn Ser Asn Asn Pro Asp Trp Asp Phe Asn Pro Ile
 35 40 45

Lys Asp His Trp Pro Gln Ala Asn Gln Val Gly Val Gly Ala Phe Gly
 50 55 60

Pro Gly Phe Thr Pro Pro His Gly Gly Val Leu Gly Trp Ser Pro Gln
 65 70 75 80

Ala Gln Gly Ile Leu Ala Thr Val Pro Ala Met Pro Pro Pro Ala Ser
 85 90 95

Thr Asn Arg Gln Ser Gly Arg Gln Pro Thr Pro Ile Ser Pro Pro Leu
 100 105 110

Arg Asp Ser His Pro Gln Ala Met Gln Trp Asn Ser Thr Ala Phe His
 115 120 125

Gln Ala Leu Gln Asp Pro Arg Val Arg Gly Leu Tyr Phe Pro Ala Gly
 130 135 140

Sequence Listing

Gly Ser Ser Ser Gly Thr Leu Asn Pro Val Pro Thr Ile Ala Ser His
145 150 155 160

Ile Ser Ser Ile Ser Ser Arg Ile Gly Asp Pro Ala Pro Asn
165 170

<210> 7
<211> 39
<212> DNA
<213> primer

<400> 7
gtctctagac aagagaatgg gaggttggtc ttccaaacc 39

<210> 8
<211> 37
<212> DNA
<213> primer

<400> 8
atcggatccc tagttcgggtg cagggatcccc agtcctc 37

<210> 9
<211> 174
<212> PRT
<213> PreS-15m protein

<400> 9
Met Gly Gly Trp Ser Ser Lys Pro Arg Gln Gly Met Gly Thr His Leu
1 5 10 15

Ser Val Pro Asn Pro Leu Gly Phe Phe Pro Asp His Gln Leu Asp Pro
20 25 30

Ala Phe Gly Ala Asn Ser Asn Asn Pro Asp Trp Asp Phe Asn Pro Asn
35 40 45

Sequence Listing

Lys Asp His Trp Pro Glu Ala Asn Gln Val Gly Ala Gly Ala Phe Gly
50 55 60

Pro Gly Phe Thr Pro Pro His Gly Gly Leu Leu Gly Trp Ser Pro Gln
65 70 75 80

Ala Gln Gly Ile Leu Thr Thr Val Pro Ala Ala Pro Pro Pro Ala Ser
85 90 95

Thr Asn Arg Gln Ser Gly Arg Gln Pro Thr Pro Ile Ser Pro Pro Leu
100 105 110

Arg Asp Ser His Pro Gln Ala Met Gln Trp Asn Ser Thr Thr Phe His
115 120 125

Gln Ala Leu Leu Asp Pro Arg Val Arg Gly Leu Tyr Phe Pro Ala Gly
130 135 140

Gly Ser Ser Ser Gly Thr Val Asn Pro Val Pro Thr Thr Ala Ser Pro
145 150 155 160

Ile Ser Ser Ile Phe Ser Arg Thr Gly Asp Pro Ala Pro Asn
165 170

<210> 10

<211> 174

<212> PRT

<213> PreS-123m protein

<400> 10

Met Gly Gly Trp Ser Ser Lys Pro Arg Gln Gly Met Gly Thr Asn Leu
1 5 10 15

Ser Val Pro Asn Pro Leu Gly Phe Phe Pro Asp His Gln Leu Asp Pro
20 25 30

Ala Phe Gly Ala Asn Ser Asn Asn Pro Asp Trp Asp Phe Asn Pro Asn
35 40 45

Sequence Listing

Lys Asp His Trp Pro Glu Ala Asn Gln Val Gly Ala Gly Ala Phe Gly
50 55 60

Pro Gly Phe Thr Pro Pro His Gly Gly Leu Leu Gly Trp Ser Pro Gln
65 70 75 80

Ala Gln Gly Ile Leu Thr Thr Val Pro Ala Ala Pro Pro Pro Ala Ser
85 90 95

Thr Asn Arg Gln Ser Gly Arg Gln Pro Thr Pro Ile Ser Pro Pro Leu
100 105 110

Arg Asp Ser His Pro Gln Ala Met Gln Trp His Ser Thr Thr Phe His -
115 120 125

Gln Ala Leu Leu Asp Pro Arg Val Arg Gly Leu Tyr Phe Pro Ala Gly
130 135 140

Gly Ser Ser Ser Gly Thr Val Asn Pro Val Pro Thr Thr Ala Ser Pro
145 150 155 160

Ile Ser Ser Ile Phe Ser Arg Thr Gly Asp Pro Ala Pro Asn
165 170

<210> 11
<211> 174
<212> PRT
<213> PreS-dm protein

<400> 11
Met Gly Gly Trp Ser Ser Lys Pro Arg Gln Gly Met Gly Thr His Leu
1 5 10 15

Ser Val Pro Asn Pro Leu Gly Phe Phe Pro Asp His Gln Leu Asp Pro
20 25 30

Ala Phe Gly Ala Asn Ser Asn Asn Pro Asp Trp Asp Phe Asn Pro Asn
35 40 45

Sequence Listing

Lys Asp His Trp Pro Glu Ala Asn Gln Val Gly Ala Gly Ala Phe Gly	50	55	60
Pro Gly Phe Thr Pro Pro His Gly Gly Leu Leu Gly Trp Ser Pro Gln	65	70	75
Ala Gln Gly Ile Leu Thr Thr Val Pro Ala Ala Pro Pro Pro Ala Ser	85	90	95
Thr Asn Arg Gln Ser Gly Arg Gln Pro Thr Pro Ile Ser Pro Pro Leu	100	105	110
Arg Asp Ser His Pro Gln Ala Met Gln Trp His Ser Thr Thr Phe His	115	120	125
Gln Ala Leu Leu Asp Pro Arg Val Arg Gly Leu Tyr Phe Pro Ala Gly	130	135	140
Gly Ser Ser Ser Gly Thr Val Asn Pro Val Pro Thr Thr Ala Ser Pro	145	150	155
Ile Ser Ser Ile Phe Ser Arg Thr Gly Asp Pro Ala Pro Asn	165	170	